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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,887	01/15/2002	Richard N. Blount	017018-54.00US	7948

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EXAMINER

HA, DAC V

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,887

Applicant(s)

BLOUNT ET AL.

Examiner

Dac V. Ha

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to the amendment filed on 04/12/04.

Claim Objections

2. **Claims 6-7, 14-24** are objected to because of the following informalities:

Claim 6, lines 2-3, "said self-generated signal" should be made in consistent with "self-gengerated signals" on line 5 of claim 5.

Claim 14, line 5, "the output" should be changed to avoid antecedent basis problem.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 3-27** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. **Claim 3** recites the limitation "said downconversion imprfection compensating step" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

6. **Claim 4** recites the limitation "said downconversion imperfections compensating step" in lines 1-2; "said modulated signal" in line 4; "said replicated modulated user

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signal" in line 5. There are insufficient antecedent basis for these limitations in the claim.

7. **Claim 26** recites the limitation "said downconversion imperfections" in line 3. There is insufficient antecedent basis for this limitation in the claim.

8. **Claim 27** recites the limitation "said downconversion imperfections" in line 3. There is insufficient antecedent basis for this limitation in the claim.

9. **Claim 5** recites the limitation "said self-generated signal portions" in line 9. There is insufficient antecedent basis for this limitation in the claim.

10. **Claim 6** recites the limitation "said compensating step" in line 2; "said canceling step" in line 2. There are insufficient antecedent basis for these limitation in the claim.

11. **Claim 9** recites the limitation "said upconversion imperfection compenstating step" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

12. **Claim 10** recites the limitation "said upconversion imperfections compensating step" in lines 1-2; "said modulated output" in line 3; "said replicated modulated user signal" in line 4. There are insufficient antecedent basis for these limitations in the claim.

13. **Claim 11** recites the limitation "said upconversion imperfections compensating step" in line 1-2; "said modulated signal" in lines 2-3; "said replicated modulated user signal" in line 3. There is insufficient antecedent basis for this limitation in the claim.

14. **Claim 12** recites the limitation "said upconversion imperfections compensating step" in lines 1-2; "said modulated signal" in line 2; "said replicated modulated user signal" in line 3. There is insufficient antecedent basis for this limitation in the claim.

15. **Claim 14** recites the limitation "said receiver downconverter" in line 6. There is insufficient antecedent basis for this limitation in the claim.

16. **Claim 18** recites the limitation "said upconversion imperfection compensating step" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

17. **Claim 19** recites the limitation "said upconversion imperfection compensating step" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

18. **Claim 20** recites the limitation "said downconversion imperfection compensating step" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

19. **Claim 21** recites the limitation "said downconversion imperfection compensating step" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

20. **Claim 22** recites the limitation "said upconversion imperfections compensating step" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

21. **Claim 23** recites the limitation "said upconversion imperfections compensating step" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

22. **Claim 25** recites the limitation "said imperfect receiver downconverter" in line 4; "said receiver downconverter" in line 5; "said imperfect transmitter upconverter" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

23. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

24. **Claims 1, 2, 4, 26** are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al. (US 5,860,057) (hereinafter Ishida).

Regarding claim 1, Ishida discloses the claimed subject matter:

“modeling downconversion imperfection in an imperfectly downconverted signal from a receiver downconverter in said receiver section operative to receive both an intended signal and a self-generated signal from a local associated transmitter forming a received relayed composite signal” (Figures 5; Figures 6, 8, elements 1, 10, 11, 12, 13; Col. 7, line 11 to Col. 8, line 16; Col. 2, line 19-21, 29-31; Col. 5, lines 57-62); wherein “imperfection” is inherent in receiver chain including that from the “downconverter”;

“compensating for said downconversion imperfections in said received relayed composite signal to produce a compensated composite signal” (Figures 6, 8; element 13; Col. 8, lines 5-12);

“canceling self-generated signal portions from said compensated composite signal to provide an output signal for demodulation” (Figures 6, 8, element 18; Col. 8, lines 12-22).

Regarding claim 26, see claim 1 above.

Regarding claim 2, Ishida further discloses “wherein said receiver downconverter model imperfections include at least one of the followings: quadrature

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phase offset, quadrature d.c. imbalance; and quadrature amplitude imbalance" in Figures 6, 8, element 13.

Regarding claim 4, Ishida further discloses " wherein said downconversion imperfections compensating step includes comparing at least one of the following: phase and amplitude of said modulated output signal with corresponding characteristics of said replicated modulated user signal" in Col. 8, line s 6-16.

Allowable Subject Matter

25. **Claim 3** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

26. **Claims 5-25, 27** are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dac V. Ha', is written over a horizontal line.

Dac V. Ha
Examiner
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